

Request 3-23

Request:

**Verizon only:** Reference your response to Staff 1-15: Please identify the subset of poles that are pending Verizon NH transfers within Verizon's maintenance area. How many of these transfers have been pending in excess of 60 days? 90 days? 180 days? One year? Two years?

Response:

Verizon only.

Prepared by or under the supervision of:

Request 3-24

Request:

**Verizon only:** Reference your response to Staff 1-15: Please identify the subset of poles that are pending Verizon NH transfers within maintenance areas other than your own. How many of these transfers have been pending in excess of 60 days? 90 days? 180 days? One year? Two years?

Response:

Verizon only.

Prepared by or under the supervision of:

Request 3-25

Request:

**All:** Have any serious discussions occurred between Verizon and the electric companies concerning maintenance trimming responsibilities in the joint operating practices and the need to change those agreements to reflect individual company trimming policy?

Response:

We have attempted to discuss these types of issues with Verizon, but they have not been resolved to date.

Request 3-26

Request:

**Verizon only:** For the years 2000 through 2005 inclusive, please supply;

- a) The number of requests for approval of danger tree removal
- b) The average time it took to approve the request (date of receipt to approval transmittal date)
- c) The number of requests for shared payment of danger tree removal received
- d) The average payment time from (date of receipt from payment request to check transmittal date)

Response:

Prepared by or under the supervision of:

Request 3-27

Request:

**All:** Does your company have a maintenance trimming program, including standards, policies, criteria for maintaining line clearances, controlling vegetation and tree contact? If yes, please provide a copy. If no, please explain why your company does not have such a program.

Response:

See attachment 3-27a, "New England Distribution Line Clearance Specifications" for current standards. See attachments 3-27b and 3-27c for specifications prior to 04/01/2005.



**National Grid**

**NATIONAL GRID NEW ENGLAND DISTRIBUTION LINE  
CLEARANCE SPECIFICATIONS**

Program Objective: The goals and objectives of the Distribution Line Clearance program are to provide safe, reliable, electric service through a cost effective, integrated vegetation management program. These specifications are designed to address:

- the minimum clearance requirements necessary to sustain safe, reliable electric service while striving to satisfy the concerns of sensitive customers,
- and the routine clearance requirements necessary to maintain the greater clearance conditions which have been achieved in previous trim cycles.

I. Scope of Specification

- 1.1 These specifications cover the clearing, pruning and removal of vegetation along overhead electric distribution lines.

II. Intent

The intent of this specification is to:

- 2.1 Define the minimum clearance between the conductors and trees acceptable to the Corporation for the purpose of maintaining and improving reliable overhead electric distribution line service.

III. Scope of Work

- 3.1 Within cities, villages, residential areas, and the yard areas (mowed, maintained) of rural homes and seasonal camps, the lines shall be pruned to provide a minimum of fifteen (15) feet of overhead clearance, six (6) feet of side clearance and (10) feet of clearance below the primaries. These clearances apply to all 3 phase construction types except Spacer / Hendricks Cable, which will require ten (10) feet of overhead clearance, six (6) feet of side clearance and ten (10) feet of clearance below the primaries. Likewise, these reduced clearance standards (10'-6'-10') will also apply to all single phase construction types. Express Cable shall be pruned to provide six (6) feet of circular clearance around the cable.

The main trunk of the tree, together with major limbs that are structurally sound and healthy, may be left growing within these distances when removal would adversely affect the health, vigor and aesthetics of the street or residential tree.

All branches shall be pruned in accordance with recognized, arboricultural pruning standards (ANSI A300), and pruned so as to grow away from the overhead conductors to the extent practical. This may result in clearances beyond the dimensions noted above. In addition, where greater clearances have been achieved in previous pruning operations, the work shall be completed so as to re-establish the clearances in a manner that equals or exceeds these previous clearances.

- 3.2 All slash from pruning in residential areas (mowed, maintained) shall be disposed of through chipping. Large diameter wood, that is too big to chip, may remain on site provided it is cut to easily handled lengths, and piled neatly. Small debris shall be raked up and removed so as to leave the property in a condition equal to the start of work.
- 3.3 When working the 3 phase primary beyond or outside the yard area (un-maintained) of a residence, the lines shall be pruned so as to provide at least fifteen (15) feet of overhead clearance and at least six (6) feet of side clearance. All types of single phase construction shall be pruned so as to provide at least ten (10) feet of overhead clearance and at least six (6) feet of side clearance. The Contractor shall ground cut all undesirable tree and shrub species which have the capability of interfering with the conductor (capable species), for a minimum distance of ten (10) feet either side of centerline. Along roadside spans where it has been previously maintained using National Grid's eight (8) foot targeted ground cutting specification by trimming or removal, that same approach shall continue to be utilized. Stumps shall be cut flat and as close to grade as possible. Regardless of the ground cutting method used, trees shall be removed back to the tree line, including the removal of any stems back inside the tree line, which are growing out or leaning into the right-of-way.

Again, where greater clearances have been achieved in previous cycles, the pruning and ground cutting shall be completed so as to re-establish the clearances in a manner that equals or exceeds the previous clearance conditions unless otherwise directed by the Arborist or their designee.

- 3.4 For un-maintained areas, all slash along the highway or near residences shall be disposed of by chipping or mowing/mulching. Where practical, chips may be blown back onto the site without creating large chip piles. On off-road, un-maintained sites, slash and wood shall be mowed/mulched and/or neatly windrowed to the edge of the right-of-way and cut to lie close to the ground, away from sensitive locations. Whole trees or large branches dropped along or into a wooded area shall be limbed or cut up so

to lie as flat as possible. No debris shall be left so as to block or significantly alter any drainage or water resource.

In a continued effort to minimize outages from above the conductor, National Grid has begun to implement ground to sky clearances on mainly rural, 3 phase segments of higher voltage - wye circuits. This practice may be pre-identified as areas or individual trees on the work copy of the feeder maps or identified in the field by the Arborist/Forester or his designee at any time during the pruning project. This work will either be billed using a separate unit price for overhang removal or done hourly.

- 3.5 All dead or damaged overhead limbs, branches or leads that are capable of falling onto overhead primary wires from above or along side the right-of-way and potentially causing a tree outage shall be removed at the time of pruning and included in the unit price for trimming.
- 3.6 Additionally, when trimming the primary outside of residential yard areas, the unit price for trimming shall include the removal of any tree up to and including an eight (8) inch D.B.H., that is located within the right-of-way or located along the edge of the right-of-way.
- 3.7 Other than work required in the above section, the removal of any hazard tree over 8 inches D.B.H. within the right-of-way shall be considered a hazard tree removal, and is outside the unit price for trimming.
- 3.8 The contractor shall provide a unit price per tree by diameter class for the removal of potential hazard trees from the three phase portions of the circuit, as well as "high risk" hazard trees from the single-phase portions. National Grid reserves the right to award, in whole or in part, the removal of hazard trees on any circuit using either the contractor's unit price for removals, their current hourly rates, or another contractor.
- 3.9 While trimming the circuit, the contractor's personnel shall perform a visual inspection of each tree to identify potential defects and determine the potential risk for the tree to cause an outage over the length of the trim cycle. The crew shall work closely the National Grid Arborist/Forester to determine potential hazard trees, preparing a list of trees in accordance with National Grid's Hazard Tree Reporting Form. The completed lists of hazard trees shall be regularly provided to the supervising Arborist/Forester, before the completion of the feeder. The Arborist will determine whether such work will be performed by the trimming crew during the pruning operation or handled by a separate hazard mitigation crew. If the hazard poses an immediate outage or safety threat the Contractor shall immediately notify the Arborist.



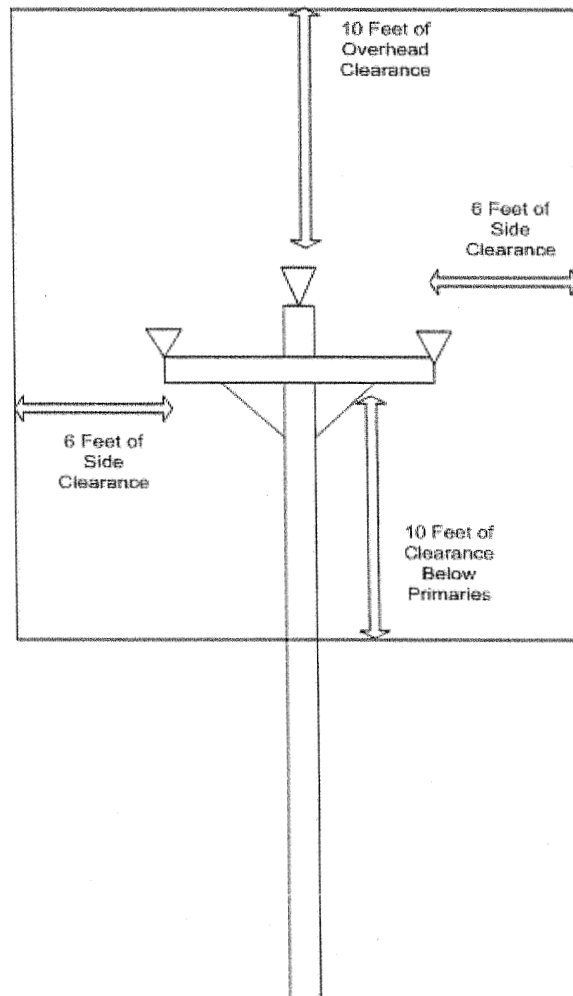
- 3.10 Hazard trees that are approved for unit price may be removed at the time of trimming. Removals done hourly will generally be cut following the completion of trim work on a feeder. Exceptions to this procedure may be approved to enable the removal of trees that pose an imminent risk or to authorize hazard tree removals in off road areas where the skidder bucket or climbing crew is already available and on site.
- 3.11 When the crew completes the removals at the time of trimming, they shall compile a list of hazard trees that are removed by road, pole, species and diameter class in either a rural or urban setting. This list shall be submitted to the supervising arborist/forester on a weekly basis utilizing National Grid's Unit Price Hazard Tree Reporting form provided by the arborist/forester. Once approved, the contractor shall submit the unit price removals on the same invoice as the unit price trimming for that feeder. Where wood removal is required, and National Grid cannot verify tree diameter, we will deduct 2 inches from the average stump diameter to establish the payable "D.B.H." class.
- 3.12 All secondary lines and open wire service drops shall be trimmed so as to provide a minimum of 4 feet of clearance.
- 3.13 All triplex service drops will be pruned so as to provide a minimum of 18 inches of clearance.
- 3.14 All vegetation within 10' of the substation fence, from ground to sky, shall be trimmed, removed and chipped and no overhanging branches shall be allowed to remain. Where shrubs and trees have been planted for screening purposes and are rooted within the 10' distance, only the fence side branches shall be removed. Any volunteer growth (natural regeneration) rooted within the 10' distance shall be removed and the stumps treated with an approved herbicide.
- 3.15 When pruning, all cuts shall be made at a parent branch or limb, so that no stub shall remain. In cutting back a branch, the cut shall be made at a crotch or node where the branch remaining is at least one-third the diameter of the parent limb. All pruning cuts shall be made in accordance with proper collar cutting methods, utilizing drop crotch principles to minimize the number of pruning cuts, promote natural growth patterns, and maintain tree health and vigor (ANSI A300). Climbing irons or spurs shall not be used in pruning a shade/ornamental tree to be saved. Tree wound dressings shall not be applied.
- 3.16 All vines growing on poles, guy wires, stub poles or towers shall be cut so as to create a "growth gap" and treated (where appropriate) with a herbicide approved by the Company. Contractors should not attempt to remove vines from any structure. Prior to removing any vine that appears

to have been planted by the property owner, the Contractor shall notify that landowner. The Contractor shall refer any landowner concerns to the Arborist/Forester.

Revision Date: 1/13/05

## Urban / Rural Maintained Properties

### 3 Phase Clearances

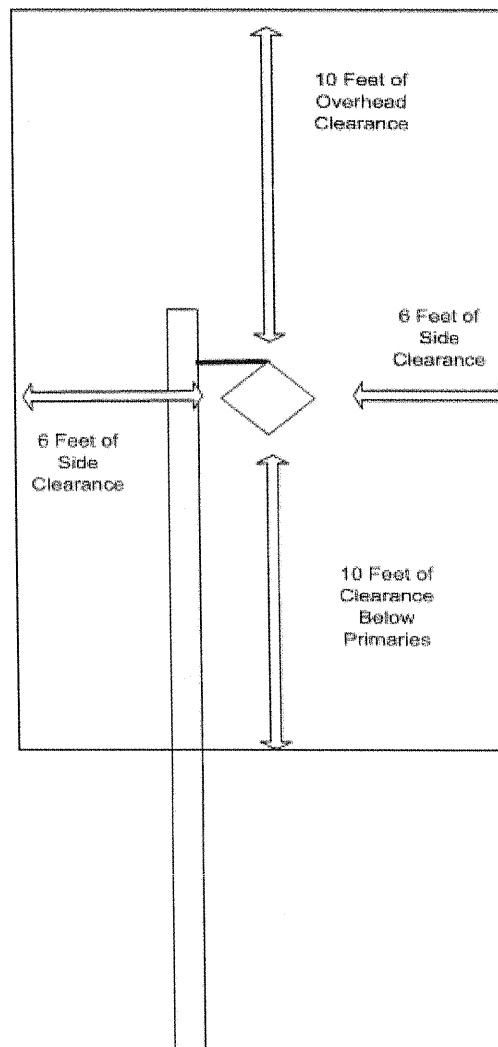


The above diagram depicts the clearance requirements for all 3 phase construction types (except Spacer/Hendricks Cable) when working in cities, villages, residential, and maintained yard areas.

(Proper Arboricultural pruning may exceed the specifications depicted above)

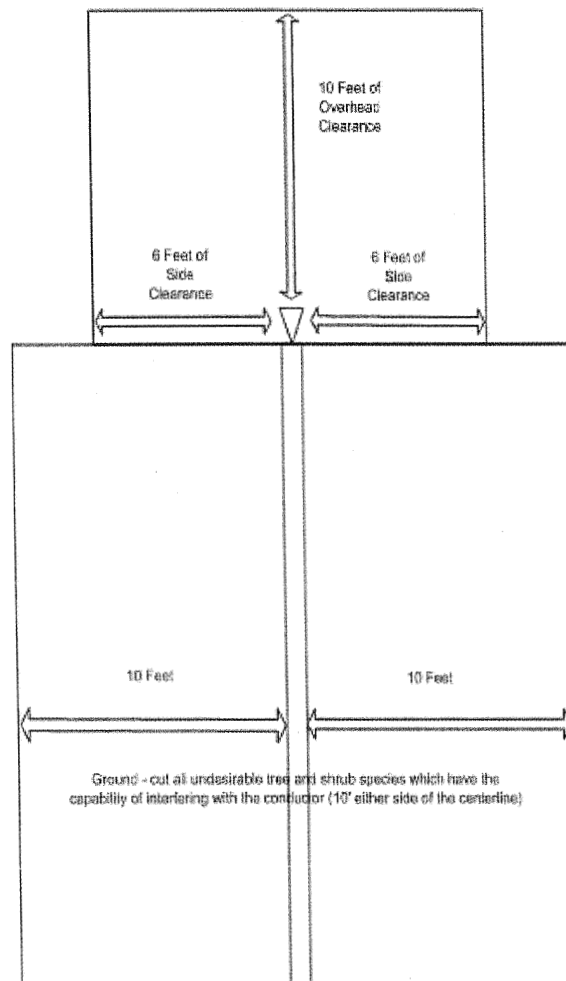
# Urban / Rural Maintained Properties

## 3 Phase Hendricks Cable and Single Phase Clearances



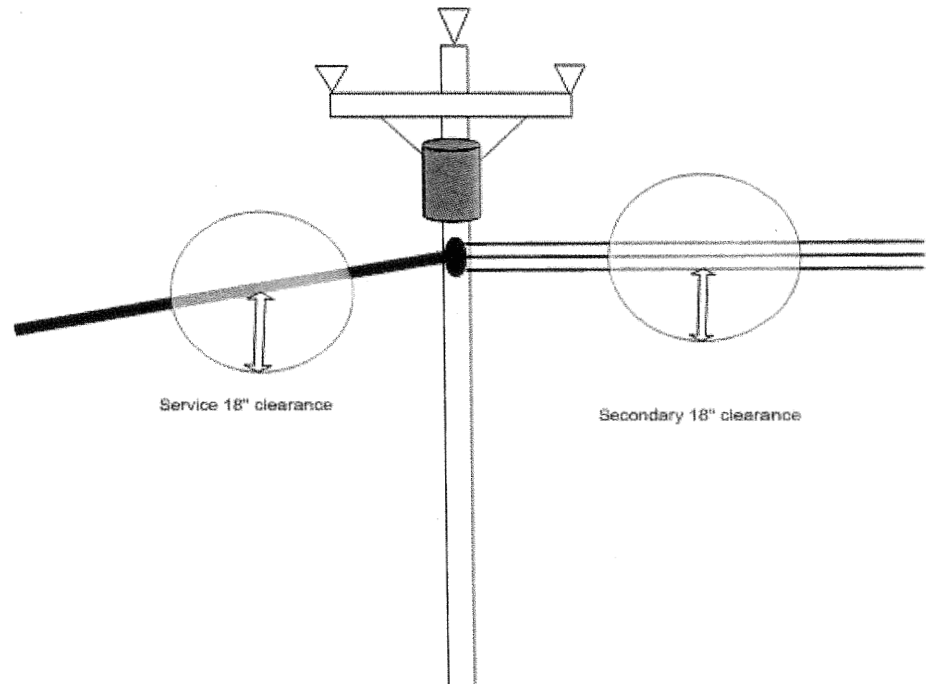
The above diagram depicts the clearance requirements for 3 phase Spacer/Hendricks Cable and all single phase construction types when working in cities, villages, residential, and maintained yard areas.  
(Proper Arboricultural pruning may exceed the specifications depicted above)

## Rural / Un-maintained Properties Single Phase Clearances



The above diagram depicts the clearance requirements for single phase construction outside or beyond the yard area (un-maintained)  
(Proper Arboricultural pruning may exceed the specifications depicted above)

## Secondary and Service Clearances



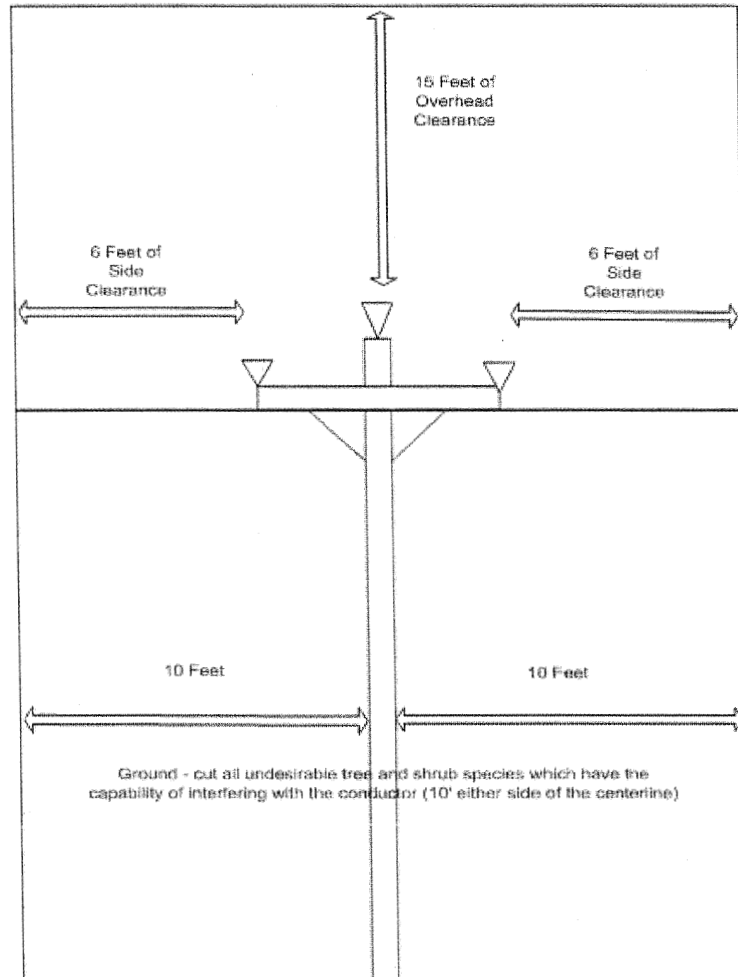
The above diagram depicts the clearance requirements for secondary and services

Service is defined as the last span from pole to the house.  
Secondary is defined as between poles. (Triplex or open wire)

## Clearance Requirements by Voltage and Construction Type

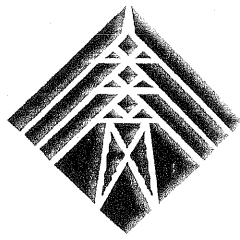
Construction Type	Above	Side	Below	Ground cut	Maintained	Un-Maintained
3 Phase Crossarm	10	6	10	No	X	
3 Phase Spacer / Hendricks	10	6	10	No	X	
Single Phase all Construction	10	6	10	No	X	
3 Phase Crossarm	15	6	10	Yes		X
3 Phase Spacer / Hendricks	10	6	10	Yes		X
Single Phase all Construction	10	6	10	Yes		X
Secondary	18 inches of clearance around wires					
Service	18 inches of clearance around wire					

## Rural / Un-maintained Properties 3 Phase Clearances



The above diagram depicts the clearance requirements for all 3 phase construction types outside or beyond the yard area (un-maintained)  
(Proper Arboricultural pruning may exceed the specifications depicted above)





**National Grid**

*NEW ENGLAND*

*VEGETATION MANAGEMENT  
DISTRIBUTION LINE  
MAINTENANCE  
PROGRAM  
MANUAL*

*APRIL 9, 2002*

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## ***GLOSSARY***

**Adventitious buds-** Dormant buds located in a leader.

**Annual growth-** A yearly incremental stage of vegetation growing that can be visually determined by the annual nodes.

**Arborist/Forester-** Here after referred to as "Arborist". A National Grid USA employee whose role within their respective administrative district is to plan, budget, execute, and audit vegetation management projects; resolve customer issues; work closely with district vendor leadership to achieve performance goals & assist the administrative district with municipality relations/issues. Additionally, to participate in managing storm restoration; implement program policies/programs & provide regular status updates.

**Brush-** Vegetation less than four inches DBH that may reach the overhead facilities at maturity.

**Clearance-** The distance between vegetation and the overhead facilities.

**Company-** This represents the National Grid USA Retail Distribution companies.

**Construction type-** The configuration and design of the lineal overhead facilities.

**DBH-** The diameter of vegetation measured at a point four and one half feet above ground level.

**Dominant-** Exerting ecological or genetic superiority.

**Dormant-** Not actively growing but protected from the environment.

**Flat cutting-** The practice of cutting vegetation at ground level under or adjacent to overhead facilities, where the vegetation has the potential to interface with the overhead facilities.

**Hazard-** Vegetation which appears to: be dead or dying, be structurally weak, have loss of bark, have loss of foliage, and have stress breaks.

**Lateral branch-** A branch extending from a parent branch or stem.

**Line clearance-** The practice of removing vegetation from around overhead facilities.

**Main leader-** A dominant upright stem, usually the main trunk.

**Multiple leaders -** Many stems of vegetation originating from the same root system.

**Node-** A point on a stem at which a leaf or leaves are attached.

**Overhead facilities-** All electrical conductors and equipment that are attached to a utility pole and are used for the conveyance of electricity.

**Permission-** The act of receiving approval from the appropriate property owner, where the vegetation is located, in order to perform necessary preventative maintenance on the vegetation.

**Plant-** Relative to distribution vegetation management purposes, the definition is a tree, vine, or shrub.

**Preventative maintenance-** The pruning, trimming, removal or chemical treatment of vegetation, growing or existing in proximity to overhead facilities, for the purpose of preventing such growth from interfering with the overhead facilities.

**Pruning-** The removal, in a scientific manner, of dead, dying, diseased, interfering, objectionable, and/or weak vegetation branches.

**Scaffold branch-** A large limb that is, or will be part of the permanent branch structure of a tree.

**Shrub-** A low usually multi-stemmed woody plant.

**Sucker growth-** New growth originating from adventitious buds. Usually induced by removing a branch.

**Tree-** A woody perennial plant having a single usually elongate main stem.

**Trim-** See "Pruning"

**Trim cycle-** A predetermined period of time between preventative maintenance activities.

**Trim zone-** The area in and around overhead facilities where vegetation is removed.

**Vegetation-** Plant life such as trees, shrubs, vines, and brush that has a potential to interface with overhead facilities.

**Vendor-** A Vegetation Management service provider who has a Purchase Order to provide such services to the National Grid USA companies, Districts, and Arborists.

**Vine-** A plant whose stem requires support and which climbs by tendrils or twining.

*NATIONAL GRID USA companies*

*NEW ENGLAND*

*DISTRIBUTION LINE  
VEGETATION MANAGEMENT  
REQUIREMENTS*

*APRIL 8, 2002*

**PURPOSE**

To define a set of Distribution Line Vegetation Management Requirements that are implemented by the Company on a uniform basis. These requirements are to lay out the specifications for routine preventative maintenance and removal of; dead, unsound, and structurally weak branches and leaders. The Company's Distribution Line Vegetation Management Requirements are designed to address reliability and safety through the understanding of the dynamic interaction between vegetation and overhead facilities.

**TRIM CYCLE**

The recommended trim cycle is a five year cycle with a three year interim trim. The trim cycle is implemented on an annual basis, by identifying the feeders that are due to be trimmed and prioritizing them on a frequency reliability performance basis. The interim trim is implemented by identifying which feeders are halfway through the cycle. They are surveyed for growth and hazard situations and then interim trimmed accordingly. Customer Service lines are only trimmed on the trim cycle basis unless the Arborists determines that a special condition exists requiring an interim trim.

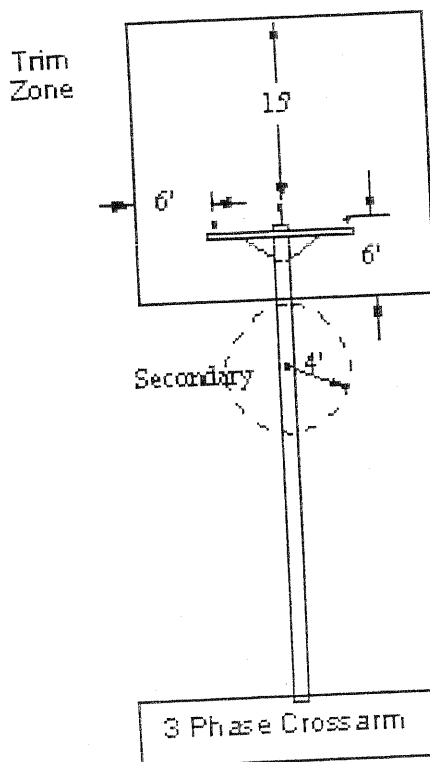
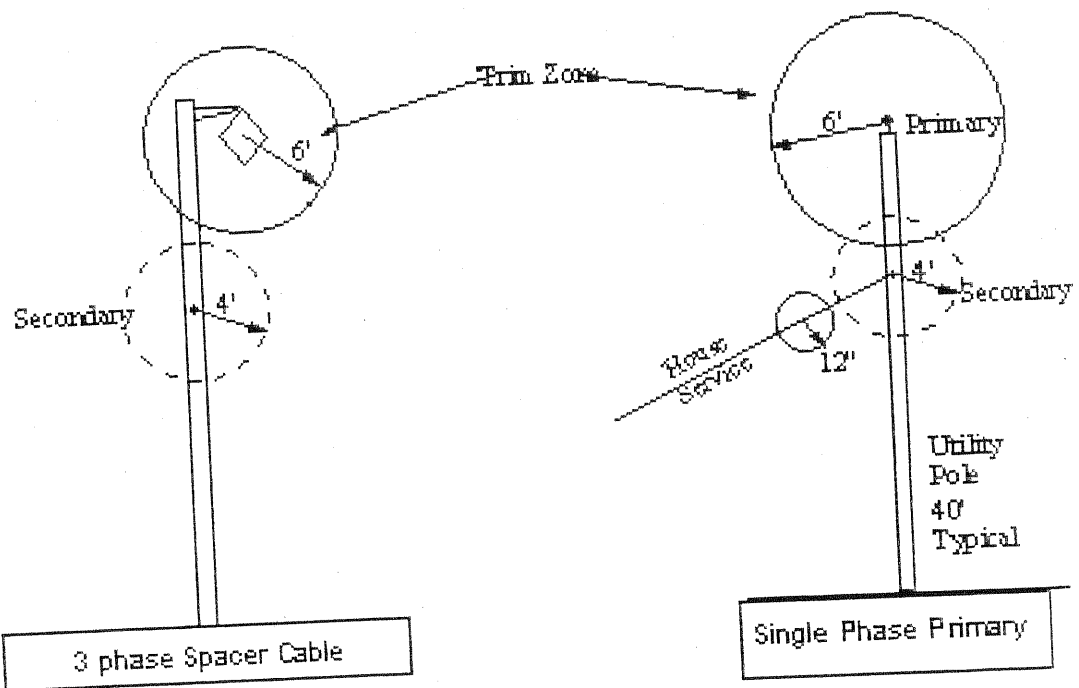
**TREE TRIMMING ZONE SPECIFICATION REQUIREMENTS**

Table A below illustrate the minimum clearance distance required by the Company for all distribution line clearance maintenance activities based on Overhead facilities construction types. As with all programs there are exceptions to the rules and additional special conditions requirements. These are all clearly spelled out in the following sub-sections. These specifications are designed to prevent vegetation capable of interfering with the overhead facilities within a four year period.

**TABLE A**

CONSTRUCTION TYPE	TRIM ZONE
THREE PHASE PRIMARY	ABOVE 15'
ALL TYPES (except spacer cable)	SIDE 6'
	UNDER 6'
SINGLE PHASE PRIMARY	ABOVE 6'
ALL TYPES & THREE PHASE SPACER CABLE	SIDE 6'
	UNDER 6'
SECONDARY	FOUR FOOT RADIAL CIRCLE
HOUSE SERVICE	12" RADIAL CIRCLE

# Vegetation Management Distribution Line Maintenance Minimum Requirements



Construction Type	Trim Zone
3 Phase Primary crossarm	Above 15' Side 6' Under 6'
3 phase spacer and Single phase primary	Above 6' Side 6' Under 6'
Secondary	Four Foot Radial Circle
House Service	12" Radial Circle

## ***HAZARD REMOVALS WITHIN TRIM ZONE***

Remove all hazardous branches from above or adjacent to the overhead facilities to protect the facilities until the next trim cycle.

## ***SELECTIVE FLAT-CUTTING WITHIN THE TRIM ZONE***

Targeted for flat-cutting will be tree species that are under the electric conductor(s) and are over 8' in height.

## ***TRIM ZONE EXCEPTIONS***

### **Clearances exceeding trim zone requirements**

In the situation where the clearance already exceeds the trim zone requirements, due to prior trim cycle trimming activities, then the vendor will remove all prior cycle sucker growth back to the previous trim cycle wounds.

### **Clearances restricting trim zone requirements**

**Permissions restrictions-**In the event that permission from a property owner to trim or remove in accordance with these specifications cannot be obtained, the following steps will be taken:

**LIGHT TRIM-** Computer or form entry with inclusion of town, street address and pole number.

**REFUSAL TO TRIM-** Computer or form entry with inclusion of property owner name, address, telephone number, pole number, description of site, and if possible, signature of property owner.

**REFUSAL FOR HAZARD REMOVAL-** If permission is denied for the removal of a hazardous limb/tree a computer or form entry with inclusion of the property owners name, address, telephone number, pole number, description of defect or hazard and if possible, property owners' signature. These serious hazards warrant a photo of the tree and follow up by the Arborist.

\*Above information will be provided back to the Arborist on a regular basis, or at most, quarterly.

**Structural restrictions-** In the event that the main leader and/or scaffolding branches fall within the trim zone are determined not to interfere with the overhead facilities; structurally sound and; free of sucker growth within the trim zone, then the main leader and/or branch may remain in the trim zone.



## *TYPES, METHODS, AND TECHNIQUES*

### **Acceptable Tree Trimming Types**

There are three basic types of trimming that will be discussed in this section. They include; Crown Reduction (Top trimming), Side trimming, and Overhang trimming. There are two additional trimming terms used when discussing trimming types and they are under trimming and V or Through trimming. They will not be listed as separate types because they usually involves one or more of the types already listed. The type of trimming that is selected to be used should be based upon the tree to overhead facility relationship, factoring in the type of tree being trimmed and it's growth habits. The ultimate goal is to achieve the necessary clearance to provide a continuous supply of reliable electrical service free of interference from trees while maintaining, as close as possible, the natural characteristics of the tree being trimmed.

**Crown Reduction** - This type of trimming is also called "Top trimming". It is best when used on slow growing trees. The trimming methods employed to accomplish this affect include drop crotching and/or directional trimming. The trimming type reduces the top of the trees crown when the tree is directly located underneath the overhead facilities and is intended to give the tree a natural look. The trimming should be done with as few cuts as possible and the branches should cut back to a leader which will minimize the potential for sucker growth.

**Side Trimming** - Trees growing adjacent to, into, and towards overhead facilities should be side trimmed by removing the entire branch back to the main leader or at least free of the trim zone. Trees with branches that produce sucker growth when cut, should definitely be removed. Care should be taken to reduce the effect of unsightly notches by shaping adjacent branches.

**Overhang Trimming** - This is where the overhead facilities pass under a portion of the crown and the lower branches are removed to provide trim zone overhead clearance. If it is not possible to totally remove overhangs, then every attempt should be made to reduce the weight of the overhang by trimming the branches. All dead, damaged, or weakened overhang branches must be removed.

### **Acceptable Tree Trimming Methods**

There are two basic methods employed in utility line clearance trimming, "Drop Crotching" and "Directional Trimming". These are the two methods that will be accepted by the arborists. On occasion a vendor may be requested to apply an alternative method to fulfill a special set of needs or criteria. Although not considered a trimming method, trees that are approximately 15 feet in height should be trimmed at the nodes. Alex Shigo calls this "First Order Pruning". The branches that should be retained are those that will produce future growth directionally away from the overhead facilities.

**Drop Crotching** - This method of trimming calls for removing some of the larger branches at variable distances below the top of the crown. It is intended to retain as much of the natural characteristics of the tree as possible while thinning the crown of the tree. This method of trimming should eliminate future sucker growth, when proper nodal pruning cuts are made, and reduces the amount of trimming work required in subsequent trimming operations.

**Directional Trimming** - The intent of this method is to direct future growth away from the overhead facilities. It is accomplished by cutting the growth to a lateral branch which will redirect it's future growth away from the overhead facilities.

In Dr. Alex L. Shigo's publication, "Pruning Trees Near Electric Utility Lines" he indicates that 90% of the time 3 branches can be removed to provide 90% of the clearance, which is his 90-3-90 concept. When utilizing these two methods to accomplish a trimming type, this concept should be considered as an employable technique. The use of the two methods will provide the maximum amount of clearance necessary to assure proper clearance from the overhead facilities while minimizing the amount of tree deformation occurring.

#### **Acceptable Pruning Techniques**

Pruning techniques and practices are fully explained and diagramed in ANSI A-300, and another excellent reference is Dr. Alex L. Shigo's publication "Pruning Trees Near Electric Utility Lines". Given the fact that these publications provide as excellent guides for this subject area, we feel that there is no need for further explanation.

#### **HAZARD MITIGATION**

All vegetation hazards which take one hour or more to remove should not be looked at as a preventative maintenance function but as a hazard mitigation function and should be managed as such. The hazard removal should be identified by the nearest pole location and should be scheduled for removal by a hazard mitigation crew, unless the hazard poses an immediate outage or safety situation. In the event of an immediate outage or safety situation the vendor should immediately notify the Arborist for a determination of removal by the vendor.

***NATIONAL GRID USA companies***

***NEW ENGLAND***

***VEGETATION MANAGEMENT***

***VENDOR***

***REQUIREMENTS***

***APRIL 9, 2002***

## ***PURPOSE***

To define the role and expectations of the Company's vendors in relation to vegetation management activities performed by the vendor for the Company. The role and expectations will include such items as; personnel, equipment, customer relations, government relations, Arborist relations, storm emergency implementation procedures, time management, workload implementation plans, wood waste management, and other related items.

## ***VENDOR REQUIREMENTS***

### ***PERSONNEL***

The vendor shall determine and provide the appropriate level of supervision required to maintain high quality workmanship and optimum productivity in a cost effective manner and in accordance with the supervisory requirements defined in this Chapter.

The vendor is to provide the appropriately trained and certified labor force required to maintain high quality workmanship and optimum productivity while implementing the vegetation management requirements and vendor requirements.

All services are billable in accordance with the vendor submitted labor and equipment rate sheets. Any services required by the Arborist, which are not on the vendor submitted rate sheets, will require prior approval from Supply Chain.

### ***TRAINING***

The vendor shall provide a minimum of eight hours of annual safety training and eight hours of annual professional development training per tree crew employee. All training shall be documented and all documentation shall be provided to the Company Arborist. The Company will provide straight labor time only for such training, up to these maximums. All daily tailgate work/safety meetings which are less than 1 hour are not to be counted towards this time. Any other training required by the vendor which is 1 hour or greater will not be billable once the 16 hour threshold has been reached. Where the vendor feels it is applicable, the vendor may mutually agree to combine their training with Arborist required informational sessions. In this event, the time required by the Arborist will be fully billable including equipment.

## ***VEGETATION MANAGEMENT SERVICES***

**Preventative Maintenance-** Those services as described in the "Distribution Line Vegetation Management Requirements" section. All Preventative maintenance will be conducted on reliability prioritized feeder basis.

**Hazard Tree Mitigation-** Those services as described in the "Distribution Line Vegetation Management Requirements" section entitled Hazard Mitigation. The vendor personnel should continuously look for hazardous conditions, assess level of severity, and identify the hazard location by street and pole number. They should immediately report such hazard conditions to their immediate supervisor for reporting to the Arborist. In the event that they cannot reach their immediate supervisor, they should directly notify the Arborist.

**Re-trims -** All work which is determined by the Arborist to be inside the "Distribution Line Vegetation Management Requirements" which does not have documentation as to why the "Distribution Line Vegetation Management Requirements" could not be met will be required to be re-trimmed at the vendors expense. Any work that gains a change in permission status after trimming has occurred will be re-trimmed as a component of the Company's expense.

## ***CUSTOMER RELATIONS***

Workers shall be properly attired and act in a professional manner. Contact with customers shall be done in a businesslike manner and all requests shall be clear and precise to avoid customer misunderstanding or apprehension. Should there be a serious misunderstanding with a customer which the vendor cannot fully address or alleviate, the vendor shall notify the Arborist.

## ***UTILITY RELATIONS***

**Annual Vegetation Implementation Plan-** The Arborist will inform the vendor supervisory personnel of the prioritized feeders to be maintained, the targeted mileage goals, and not to exceed cost per mile data. The vendor supervisory personnel will provide the Arborist with a proposed Annual Vegetation Implementation Plan to accomplish the expected goals in a cost effective and productive approach. The Arborist will either accept the Annual Vegetation Implementation Plan or work with the vendor to modify it into an acceptable document to provide for other District concerns the Arborist may have. Once the Arborist has approved the plan it can be implemented. During the course of the year based on data provided by the Arborist, the plan may have to be adjusted to account for data fluctuations.

**Communication-** The vendor shall communicate with the Arborist on a routine basis on such matters including but not limited to: work progress; prior notification in changes to crew complement; lost time; etc. The vendor labor force will contact the Company daily and report; work location and daily location changes, observed overhead facility problems and outages particularly crew caused outages.

**Data Management-** The vendor is responsible for collecting, on company provided electronic data collectors, the required data information requested. In the event that an electronic data collector is not available, then data collection forms will be provided by the company requesting the relevant data information required. The vendor's personnel are responsible for the accuracy of the data that they are reporting and the safe handling of the electronic data collector. If the vendor's personnel breaks the data collector and it is found by the Company to be due to negligence on the vendor's personnel behalf, then the vendor will be charged for the replacement of the electronic data collector.

**ALL DATA INFORMATION COLLECTED ON BEHALF OF A NATIONAL GRID USA COMPANY IS CONFIDENTIAL AND THE SOLE OWNERSHIP OF NATIONAL GRID USA.**

### **STATE RELATIONS**

The vendor is responsible for notifying the proper state official for all proposed vegetation management activities on state highways. If a permit is required, the company shall obtain the permit. Under specific situations, the Arborist will obtain the necessary permits. Copies of required permits will be kept on site with the crew.

### **PERMISSIONS**

**Private property-** The Vendor must obtain permission from all private property owners prior to working on private property, except where noted by the Arborist. The vendor will provide the customer, if not at home, with a Company Vegetation Management Program door knocker brochure and a vendor permission card. The vendor shall make a minimum of three documented and reasonable attempts at gaining permission from private property owners. All subsequent skips should be reported to the Arborist for follow up. The vendors crews will not trim or remove vegetation if contact with private property owners cannot be made or if the private property owner refuses to grant permission.

**Municipal property -** The vendor shall obtain permission to do tree work on municipal trees from the proper authority before doing the work. The vendor shall notify the proper municipal official (e.g. Tree Warden, etc.) and let them know where the vendor crews will be working. If a municipal official refuses clearances as specified in the "Distribution Vegetation Management Requirements" the vendor should document the restriction and inform the Arborist.

**Permissions restrictions** - In the event that permission from a property owner to trim and remove trees in accordance with these specifications can not be obtained, the following steps will be taken:

**Light trim-** Computer or paper form entry with inclusion of town, street address and/ or pole number.

**Refusal to trim-** Computer or paper form entry with inclusion of property owner name, address, telephone number, pole number, description of condition and possible signature.

**Refusal for hazard removal-** If permission is denied for removal of a hazardous limb or tree, a computer or form entry with inclusion of the property owner's name, address, telephone number, pole number, description of condition and possible signature. These serious hazard conditions warrant immediate follow up, including a photo of the tree by the vendor supervisor or the Arborist.

All information above will be reported back to the Arborist on a regular basis, or at most, quarterly.

## ***EQUIPMENT***

The vendor will provide equipment necessary for the performance of the requested services in accordance with the Distribution Line Vegetation Management Requirements. This equipment shall be properly maintained, in good operating and presentable condition. The equipment must meet all applicable DOT, ANSI and OSHA Regulations/Standards.

Each Company Arborist will require a minimum number of truck mounted aerial lifts with the lift to be a minimum of fifty-foot platform height. Truck mounted aerial lifts with a platform height greater than 50' will, when required by the Arborist, be billed according to the labor and equipment rate sheet. Any equipment required by the Arborist, which are not on the vendor submitted rate sheets, will require prior approval from Supply Chain.

The vendor shall be responsible for supplying, at a minimum, a properly operating pager to all supervisory personnel who respond to requests by the Arborist. This is imperative for both normal business and emergency response.

**WORK SITE CLEAN-UP**

The vendor is responsible for all work sites to be properly cleaned of vegetation debris, including the legal and environmentally acceptable disposal of leaves, branches, wood, wood chips or slash in accordance with federal, state, and municipal regulations and guidelines..

In the Districts where wood chip disposal/work platform areas are provided, the woodchips must be free and clear of all trash and other undesirable debris that could reduce the resale of the woodchips. Attention to chipper maintenance for the consistent production of high quality woodchips is imperative.

**HOURS OF OPERATION**

**Normal work schedule** - 7:30 a.m.- 4:00 p.m. Adjustable based on agreement between the Arborist and Vendor. This is based on a 40-hour workweek and daily includes a 15 minute morning coffee break and a 30 minute lunch break. Also, up to 15 minutes each morning will be available to conduct D.O.T. record keeping and vehicle safety checks.

**Travel and Chip Disposal Time-** The hours of operation are to include travel to and from the work site, fuel time, and wood chip disposal. Until such time that the Arborist provides a convenient parking and chip disposal area, the vendor is responsible for assuring that travel and disposal time is at a minimum.

**Excess Travel-**In the event the Arborist needs to reassign crew(s) to a temporary work area, the Arborist may authorize additional travel time.

**Additional Time-** Time Not Worked due to; weather, equipment breakdown time and, Company scheduled holiday may be rescheduled and/or authorized by the Arborist.

**STORM EMERGENCY RESPONSE**

**Vendor storm standby** -During severe inclement weather, crew(s) may be placed on storm standby by the Arborist or their designee. They will be instructed as to which Company staging area to report to until such time needed for actual storm restoration work. The employee and equipment billable rates will take effect as soon as they are requested by the Company Arborist to be on standby status.

**Arborist vendor storm response** - During off-hour call out for storm or emergency work, the vendor will be allowed no more than 60 minutes to be at the work location from the time that the Arborist makes contact with the first vendor contact person.

**Additional vendor storm response** - The vendor will provide additional crews as requested by the System Arborist or their designee to the extent possible.



### **Storm Equipped Aerial Lift Trucks**

All equipment required for storm response purposes shall be in a safe and reliable operating condition.

The following is required equipment during storm conditions:

Truck mounted aerial lift and lift to be a minimum of forty five foot platform height, and all necessary tools, equipment and clothing for storm restoration work including night lighting. Chippers are not required storm equipment unless requested by the Arborist.